

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 17 October 2005. Being filed concurrently with this Amendment is a Request for Extension of Time with the requisite fee being paid.

In the Official Action, Claims 1-3 have been rejected by the Examiner based upon the Liu Patent 6,919,627. By this Amendment, Claim 1 has been further amended to clarify the inventive concept of the Applicant. Additionally, Claims 6 and 7 have been added to further define the invention concept of the Applicant with respect to prior art.

Prior to a discussion of the rejection it is believed to be beneficial to provide a brief description of the subject Patent Application chip adhesive with relation to the inventive concept of the Applicant. The subject Patent Application is directed to a chip adhesive which generally can adhere to a stacked packaging structure between adjacent chips and maintain the chips with a predetermined displacement in order to save costs of a dummy die. As can be clearly seen in Figs. 4-6, Chip adhesive 36 in Figs. 4-5 and 48 in Fig. 6 include a plurality of stuff particles 38 in Figs. 4-5 and 46 in Fig. 6. The concept of the Applicant is to allow differing distances to be maintained between adjacent upper chips 34 and 32 in Figs. 4-5 and multi-chips 44 in Fig. 6.

The particular displacement distance between upper and lower chips 34/32 and multi-chips 44 is determined by the wiring 40 and the amount of distance needed between the chips to allow such wiring to be operably connected.

In order to accomplish this maintenance of necessary distances between adjacent chips, Applicant defines stuff particles 38 and 46 within the chip adhesives 36 and 48 to some selective dimensional length.

This selective length is clearly seen in Figs. 4-6 and especially in Fig. 6 where the distances between adjacent multiple chips 44 is of different displacement distances.

With respect to the inventive concept of Applicant, Figs. 4-6 clearly show the stuff particles 38 and 46 (Fig. 6) having an ovaloid or prolate spheroidal contour. The importance of the contouring of the stuff particles 38 and 46 is clearly seen in the fact that Applicant desires to have a greater surface area of the stuff particles 38 and 46 surrounded by and encompassed by the chip adhesive 36. The stuff particles 38 when having a non-spheroidal shape or contour can have a greater surface area in contact with the chip adhesive 36 than that which can be attained by a spheroidal stuff particle. The stuff particles 38, 46 have an extended length in the vertical direction and maintain more stuff particles 38/46 without each touching the other which would be a limiting factor for spherical particles as is seen in the prior art.

It is respectfully submitted that the Drawings are part of the Specification and thus Figs. 4-6 clearly disclose the ovaloid type of contouring as now defined in the newly-inserted Claims 6 and 7.

The Examiner has rejected Claims 1-3 under 35 U.S.C. § 102 as being anticipated by the Liu, et al. Patent 6,919,627 reference. Although the Liu, et al. reference is directed to a multi-chip module and utilizes a plurality of fillers 131 within the adhesive 13, controlling the thickness of the adhesive layer 13 in the overall semiconductor package 1 subsequent to the adhesion of a second chip 14, such is not directed to a "... plurality of stuff particles contained therein, said stuff particles having a selective dimensional length dependent on one of said selective distances between said adjacent chips ..." as is necessary to now amended independent Claim 1.

Additionally, it is not believed that there is any mention of the contouring and the effect of such contouring shown in the Liu, et al. reference. Thus, it is not believed that the Liu, et al. reference provides for a chip adhesive where the stuff particles are non-spherical in contour. All of the description of the stuff particles or fillers is directed to what appears to be simply the standard spheroidal particles.

Thus, the Liu, et al. reference does not provide for the "... stuff particles are non-spherical in contour", as is necessary to newly-inserted dependent Claim 6.

Still further, the Liu, et al. reference does not direct itself to nor describe the stuff particles having a prolate spheroidal contour for the purposes and objectives

as previously described in this Amendment. This, the Liu, et al. reference does not provide for "... said stuff particles are prolate spheroidal in contour for maximizing an adhesive area of said stuff particles to said surrounding adhesive ..." as is provided by newly-inserted dependent Claim 7.

The Examiner has rejected Claims 1-3 under 35 U.S.C. § 102 as being anticipated by the Ismail, et al. Patent Application Publication 2003/0160311 reference. The Examiner's contention is that the Ismail, et al. system controls the thickness by suitably selecting a type of stuff particles and the quantity of the particles. The particles 120 of the Ismail, et al. reference are blended in order to maintain a predetermined spacing between the dies 104/106.

However, the Ismail, et al. reference although stating that the stuff particles 120 may be of differing contours, wherein the particles 124 may have oval, rectangular shapes so that they provide adequate spacing between the bottom die 104 and the top die 106, such is completely silent as to all of the stuff particles being "non-spherical" nor does it state that all of the stuff particles are "prolate spheroidal" in contour to permit the adequate spacing.

Thus, the Ismail, et al. reference is deficient for the same arguments as provided for the Liu, et al. reference.

Neither the Liu, et al. reference nor the Ismail, et al. reference whether taken alone or in combination do not provide for: "... said chip adhesive including a plurality of stuff particles contained therein, said stuff particles having a

selective dimensional length dependent on one of said selective distances between said adjacent chips ...”, as is necessary to now amended independent Claim 1.

Neither the Liu, et al. reference nor the Ismail, et al. reference provide for: “all of said stuff particles being non-spherical in contour” as is necessary to newly-inserted Claim 6 nor do either of the references cited by the Examiner provide for “all of said stuff particles are prolate spheroidal in contour for maximizing an adhesive area of said stuff particles to said surrounding adhesive ...” as is necessary to newly-inserted dependent Claim 7.

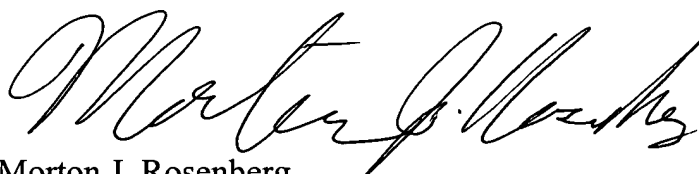
The remaining references cited by the Examiner have been reviewed and are believed to be further remote from the subject Patent Application system as defined by Claims 1-3 and 6-7 now pending in this Application.

Claims 2-3 are believed to show patentable distinction over the prior art cited by the Examiner for at least the same reasons as previously discussed.

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Reply to Office Action dated 17 October 2005

It is now believed that the subject Patent Application has been placed in
condition for allowance and such action is respectfully requested.

Respectfully submitted,
For: ROSENBERG, KLEIN & LEE

A handwritten signature in black ink, appearing to read "Morton J. Rosenberg". The signature is fluid and cursive, with the first name "Morton" being the most prominent part.

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